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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/408,279	ROSATO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael Kornakov	1746	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**  
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 02/13/2004.
2. ☒ The allowed claim(s) is/are 80,82-111 and 114-118.
3. ☒ The drawings filed on 19 December 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                                     |                                                                                        |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                         | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|                                                                                                                     | 9. <input type="checkbox"/> Other _____.                                               |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. K. Frost, esq., on 04/23/2004.

The application has been amended as follows:

Cancel claims 112 and 113.

In claim 80 after the words "the substrate having etch residue removal chemistry thereon" insert ---, wherein the etch residue removal chemistry includes N-methylpyrrolidinone---

In claim 88 after the words "the substrate further having etch residue removal chemistry thereon" insert ---, wherein the etch residue removal chemistry includes N-methylpyrrolidinone---

In claim 89 after the words "the substrate further having etch residue removal chemistry thereon" insert ---, wherein the etch residue removal chemistry includes N-methylpyrrolidinone---

In claim 90 after the words "the substrate further having etch residue removal chemistry thereon" insert ---, wherein the etch residue removal chemistry includes N-methylpyrrolidinone---

These amendments are made in order to overcome the prior art references by indicating that the etch residue removal chemistry includes N-methylpyrrolidinone, which is removed from substrate by rinsing under specific conditions, not anticipated or suggested by prior art references.

In claim 82 delete the first word "includes" after the words "the organic acid"

In claim 115 delete the first words "wherein the" after the words "claim 114"

These amendments are made in order to correct informalities.

In claim 83 replace the number "80" after the words "according to claim" by the number 82.

This amendment is made in order to establish proper dependency.

Cancel claims 119, 120, 121.

This amendment is made in order to avoid redundancy.

### ***Response to Applicants' amendment***

2. Applicants' amendment and clarifications along with Examiner's amendment have overcome all previous rejections, and the rejections are withdrawn. Applicants' amendment along with Examiner's amendment has also overcome potential ODP rejection over copending Application 09/650,382.

### ***Allowable Claims***

3. Claims 80, 82-111, 114-118 are allowable over the prior art of record.

***Reasons for Allowance***

4. The following is an examiner's statement of reasons for allowance: The closest prior art of record are Hineman et al. (U.S. 6,313,048) and Usifer et al (5,104,770).

Hineman teaches a method of cleaning surfaces of metallized semiconductors having the photoresist and/or other etch related polymers thereon by contacting the said surfaces with a composition including acetic acid. However, Hineman fails to anticipate or suggest fairly the cleaning process, which includes two separate steps, namely the step of removal the etch residues with etch residue removal chemistry, including N-methylpyrrolidinone, and the step of rinsing the said etch residue removal chemistry from the said surfaces with aqueous media, including mono- and polycarboxylic organic acids.

Usifer teaches removal a solvent such as N-methylpyrrolidinone from substrate surface, which may include copper, aluminum or other metal by air-drying or heating. Usifer fails to anticipate or suggest fairly removal of N-methylpyrrolidinone from metallized substrate by rinsing it with aqueous media, including mono- and polycarboxylic organic acids.

No other prior art that anticipates or suggests fairly the instant claims has been located as of the date of this office action. Therefore, claims 80, 82-111, 114-118 are allowed over the prior art of record.


Additional references are provided in PTOL-892 in order to show the general state of the art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Kornakov  
Examiner  
Art Unit 1746

04/27/2004